

1 Call. In addition, the Examiner suggested amending Claim 21 to specify the specific order of the
2 steps, particularly if such order would distinguish over the art.

3 Applicants' attorney would like to again thank Examiner Ramillano for her time and willingness to
4 discuss these issues during the Telephone Interview.

5 Previously Submitted Traversals of Anticipation Rejections Based on Bryden, Call, and Murray

6 Applicants are concerned that the Examiner has not considered applicants' traversal of the
7 rejection of Claim 1 as being anticipated by Int'l Published Application No. WO 03/089907 (Bryden
8 et al., hereinafter referred to as "Bryden"), Int'l Published Application No. WO 03/089661 (Murray
9 et al., hereinafter referred to as "Murray"), and by U.S. Publication No. 2002/0124664 (Call et al.,
10 hereinafter referred to as "Call").

11 It appears there may be two reasons for this. First, with respect to *some* of the anticipation
12 rejections (specifically those based on Uziel and Allen), the Examiner correctly noted that applicants
13 improperly argued the prior art was non-analogous, and that such an argument is not applicable to
14 rejections under 35 U.S.C. § 102. However, applicants' traversal of the rejections based on Bryden,
15 Murray, and Call did not suffer from that error.

16 Second, the Examiner appears concerned about applicants' use of the phrase "teach or
17 suggest" when responding to an anticipation rejection. It appears that the use of such language has
18 lead the Examiner to believe that applicants are arguing *only* that the prior art *in combination* does
19 not teach an equivalent structure. That is not correct.

20 In responding to a rejection under 35 U.S.C. § 102, applicants normally traverse an
21 anticipation rejection by pointing out that the cited reference does not disclose an equivalent structure
22 or step, either because some recited element is not present in the reference, or because certain
23 elements in the cited art are not equivalent to elements recited in the claim. Mindful that the
24 reference used as the basis for an anticipation rejection in a current Office Action might be used as
25 the basis for an obviousness rejection in a subsequent Office Action, applicants normally use the
26 "teach or suggest" language, when appropriate, to *further* point out that the 102 reference does not
27 appear to be a candidate as a basis for a later 103 rejection, because the reference does not *suggest* the
28 type of modifications that could lead to an equivalent method or structure. Applicants apologize for
29 any confusion this technique may have introduced.
30

Applicants' prior traversals of the rejections based on Bryden, Murray, and Call are entirely consistent with an anticipation rejection, as those traversals document structural differences between the device disclosed by the relevant reference and the elements of Claim 1. Applicants respectfully request the Examiner consider these traversals, substantially reproduced herein, and either remove the rejections, or *articulate* a response that clearly explains why the Examiner disagrees.

With respect to such articulation, applicants respectfully request that the Examiner recognize applicants often have difficulty understanding the logic applied by an Examiner (even where such logic is perfectly clear to the Examiner). For example, based on the above noted Telephone Interview, it is clear that the Examiner has been dismissing the functional language in the pending apparatus claims, while applicants' traversals had assumed that such functional language had been treated as a claim limitation. This issue remained hidden from applicants for four Office Actions, because what was clear to the Examiner (that the functional limitations were being ignored) was not clear to applicants. Significantly, none of the Office Actions articulated that the Examiner was ignoring the functional limitations. Had applicant understood the Examiner's position, means plus function language would have been employed earlier in prosecution.

Functional Limitations

Applicants understand that the Examiner has analyzed the claims without treating the functional language as a limitation. It is currently applicants' understanding that MPEP 2173.05(g) specifically teaches that such functional language can have patentable weight. As is stated in the above cited section of the MPEP, *"A functional limitation must be evaluated and considered, just like any other limitation of the claim - for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used."*

Based on the above noted Telephone Interview, it appears that the Examiner's interpretation of MPEP 2114 is that functional language *cannot* be used to define a structure. Clearly, that interpretation contradicts MPEP 2173.05(g). Applicants *respectfully* request that, if possible, the Examiner clarify this issue, so that applicants are able to understand when functional language can be considered to be a claim limitation, and when it cannot.

Claims Rejected Under 35 U.S.C. § 102

The Examiner has rejected Claims 1, 4-6, and 32-34 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,987,286 (Allen, hereinafter referred to as "Allen '286").

1 The Examiner has also rejected Claims 21-24 and 37-38 under 35 U.S.C. § 102(b) as being
2 anticipated by U.S. Publication No. 2002/0124664 (Call et al., hereinafter referred to as “Call”).

3 The Examiner has rejected Claims 1, 4-6, and 32-34 under 35 U.S.C. § 102(c) as being
4 anticipated by U.S. Patent No. 6,949,147 (Uziel et al., hereinafter referred to as “Uziel ‘147”).

5 The Examiner has also rejected Claims 1, 4-6, 32-34, and 43-44 under 35 U.S.C. § 102(c) as
6 being anticipated by U.S. Patent No. 6,908,567 (Uziel et al., hereinafter referred to as “Uziel ‘567”).

7 The Examiner has rejected Claims 1, 4-6, and 32-34 under 35 U.S.C. § 102(c) as being
8 anticipated by U.S. Patent No. 6,805,751 (Allen, hereinafter referred to as “Allen ‘751”).

9 The Examiner has rejected Claims 1, 3-7, and 32-33 under 35 U.S.C. § 102(c) as being
10 anticipated by Int’l Published Application No. WO 03/089907 (Bryden et al., hereinafter referred to
11 as “Bryden”).

12 The Examiner has rejected Claims 1, 3-7, 29, 30, 33-36 and 43-45 under 35 U.S.C. § 102(c)
13 as being anticipated by Int’l Published Application No. WO 03/089661 (Murray et al., hereinafter
14 referred to as “Murray”).

15 In the interest of reducing the complexity of the issues for the Examiner to consider in this
16 response, the following discussion focuses on independent Claims 1 and 21, 46 and 47. The
17 patentability of each remaining dependent claim is not necessarily separately addressed in detail.
18 However, applicants’ decision not to discuss the differences between the cited art and each dependent
19 claim should not be considered as an admission that applicants concur with the Examiner’s conclusion
20 that these dependent claims are not patentable over the disclosure in the cited references. Similarly,
21 applicants’ decision not to discuss differences between the prior art and every claim element, or every
22 comment made by the Examiner, should not be considered as an admission that applicants concur with
23 the Examiner’s interpretation and assertions regarding those claims. Indeed, applicants believe that all
24 of the dependent claims patentably distinguish over the references cited. In any event, a specific
25 traverse of the rejection of each dependent claim is not required, since dependent claims are patentable
26 for at least the same reasons as the independent claims from which the dependent claims ultimately
27 depend.

28 Patentability of Independent Claim 1 over Allen (both Allen ‘286 and Allen ‘751)

29 The following traversal is based on responding to a rejection under 35 U.S.C. § 102.
30 Applicants respectfully request the Examiner to fully consider the merits of the Remarks that follow.

1 The traversal is based on an analysis that concludes that *each individual reference does not disclose*
2 *an equivalent structure*. Any remarks regarding teaching, suggesting, or modifying are to be taken
3 in the context of a *further* assertion that each reference not only does not anticipate the claimed
4 structure or method, but each reference also lacks any suggestion that the reference could be modified
5 to achieve an equivalent structure (i.e., such remarks are directed to forestalling a future rejection
6 based on 35 U.S.C. § 103).

7 Claim 1 as amended recites both *means for regenerating the regenerable solid collection*
8 *surface by removing particles from the regenerable solid collection surface and means for analyzing*
9 *the spot of immobilized airborne particles while the particles remain disposed on the regenerable*
10 *solid collection surface to determine if the spot of immobilized airborne particles represents a*
11 *biological threat*.

12 Allen '286 does not anticipate the structure of Claim 1 because Allen '286 lacks the recited
13 *means for analyzing the spot of immobilized airborne particles while the particles remain disposed*
14 *on the regenerable solid collection surface to determine if the spot of immobilized airborne particles*
15 *represents a biological threat*.

16 Allen '751 does not anticipate the structure of Claim 1 because Allen '751 lacks the recited
17 *means for analyzing the spot of immobilized airborne particles while the particles remain disposed*
18 *on the regenerable solid collection surface to determine if the spot of immobilized airborne particles*
19 *represents a biological threat*.

20 While the Allen references do disclose *means for removing particles from a surface*, the
21 references simply do not teach or suggest an apparatus that also includes means for determining if
22 particles on the surface represent a biological threat.

23 The Allen references are directed to cleaning critical surfaces (such as optics and electronics)
24 in manufacturing environments. In such a context, whether or not a particle represents a biological
25 threat is irrelevant. The Allen references disclose devices that are used to remove all particles from a
26 surface. For such devices to function effectively, there simply is no need to analyze the particles to
27 determine if the particles are biological in nature (and if so, whether they are harmful or not). Even if
28 the Allen devices were modified to include *means for detecting the presence of particles on the*
29 *surface*, in order to determine if a cleaning cycle was required, there would be no need to include
30

1 means for analyzing the particles to determine if the particles represent a biological threat. Such a
2 modification would require the impermissible application of hindsight.

3 Accordingly, the rejection of independent Claim 1 as being anticipated by the Allen references
4 should be withdrawn. Because dependent claims include all of the elements of the independent claim
5 from which the dependent claims ultimately depend, dependent Claims 4-6 and 32-34 are patentable for
6 at least the reasons discussed above in regard to independent Claim 1, and the rejection of dependent
7 Claims 4-6 and 32-34 as being anticipated by the Allen references should also be withdrawn.

8 Patentability of Independent Claim 1 over Uziel (both Uziel '567 and Uziel '147)

9 The following traversal is based on responding to a rejection under 35 U.S.C. § 102.
10 Applicants respectfully request the Examiner to fully consider the merits of the Remarks that follow.
11 The traversal is based on an analysis that concludes that *each individual reference does not disclose*
12 *an equivalent structure*. Any remarks regarding teaching, suggesting, or modifying are to be taken
13 in the context of a *further* assertion that each reference not only does not anticipate the claimed
14 structure or method, but each reference also lacks any suggestion that the reference could be modified
15 to achieve an equivalent structure (i.e., such remarks are directed to forestalling a future rejection
16 based on 35 U.S.C. § 103).

17 Claim 1 as amended recites *means for analyzing the spot of immobilized airborne particles*
18 *while the particles remain disposed on the regenerable solid collection surface to determine if the*
19 *spot of immobilized airborne particles represents a biological threat*.

20 Uziel '147 does not anticipate the structure of Claim 1 because Uziel '147 lacks the recited
21 *means for analyzing the spot of immobilized airborne particles while the particles remain disposed*
22 *on the regenerable solid collection surface to determine if the spot of immobilized airborne particles*
23 *represents a biological threat*.

24 Uziel '567 does not anticipate the structure of Claim 1 because Uziel '147 lacks the recited
25 *means for analyzing the spot of immobilized airborne particles while the particles remain disposed*
26 *on the regenerable solid collection surface to determine if the spot of immobilized airborne particles*
27 *represents a biological threat*.

28 While Uziel '147 includes *means for locating particles on a surface* to be cleaned (to
29 facilitate their removal), *neither reference discloses* an apparatus that also includes means for
30 determining if particles on the surface *represent a biological threat*.

1 The Uziel references are directed to cleaning critical surfaces (such as optics and electronics)
2 in manufacturing environments. In such a context, whether or not a particle represents a biological
3 threat is irrelevant. The Uziel references disclose devices that are used to remove all particles from a
4 surface. For such devices to function effectively, there simply is no need to *analyze the particles to*
5 *determine if the particles are biological in nature* (and if so, whether they are harmful or not).
6 Modifying these references to include means for analyzing the particles to determine if the particles
7 represent a biological threat would require the impermissible application of hindsight.

8 Accordingly, the rejection of independent Claim 1 under 35 U.S.C. § 102(e) should be
9 withdrawn. Because dependent claims include all of the elements of the independent claim from which
10 the dependent claims ultimately depend, dependent Claims 4-6 and 32-34 and 43-44 are patentable for
11 at least the reasons discussed above in regard to independent Claim 1, and their rejection should also be
12 withdrawn.

13 Patentability of Independent Claim 1 over Bryden

14 The following traversal is based on responding to a rejection under 35 U.S.C. § 102.
15 Applicants respectfully request the Examiner to fully consider the merits of the Remarks that follow.
16 The traversal is based on an analysis that concludes that Bryden *does not disclose an equivalent*
17 *structure*. Any remarks regarding teaching, suggesting, or modifying are to be taken in the context of
18 a *further* assertion that Bryden not only does not anticipate the claimed structure or method, but
19 Bryden also lacks any suggestion that the reference could be modified to achieve an equivalent
20 structure (i.e., such remarks are directed to forestalling a future rejection based on 35 U.S.C. § 103).

21 As amended Claim 1 recites *means for analyzing the spot of immobilized airborne particles*
22 *while the particles remain disposed on the regenerable solid collection surface to determine if the*
23 *spot of immobilized airborne particles represents a biological threat*.

24 Bryden does not anticipate the structure of Claim 1 because Bryden lacks the recited *means*
25 *for analyzing the spot of immobilized airborne particles while the particles remain disposed on the*
26 *regenerable solid collection surface to determine if the spot of immobilized airborne particles*
27 *represents a biological threat*.

28 With respect to analyzing particles, Bryden teaches that particles deposited on a collection
29 surface *can be removed using a laser* (see paragraph 0027), and that the vaporized particles are then
30 sucked into an analytical unit (a mass spectrometer) where they are analyzed.

1 Claim 1 distinguishes over Bryden because the analysis of the particles taught by Bryden does
2 *NOT* occur on the collection surface.

3 Thus, the air sensor of applicants' Claim 1 clearly distinguishes over Bryden in that Bryden
4 does not teach that collected particles are analyzed while on the collection surface.

5 Accordingly, the rejection of independent Claim 1 under 35 U.S.C. § 102(e) should be
6 withdrawn. Because dependent claims include all of the elements of the independent claim from which
7 the dependent claims ultimately depend, dependent Claims 3-7 and 32-33 are patentable for at least the
8 reasons discussed above in regard to independent Claim 1, and the rejection of dependent Claims 3-7
9 and 32-33 under 35 U.S.C. § 102(e) should also be withdrawn.

10 Patentability of Independent Claim 1 over Murray

11 The following traversal is based on responding to a rejection under 35 U.S.C. § 102.
12 Applicants respectfully request the Examiner to fully consider the merits of the Remarks that follow.
13 The traversal is based on an analysis that concludes that Murray *does not disclose an equivalent*
14 *structure*. Any remarks regarding teaching, suggesting, or modifying are to be taken in the context of
15 a *further* assertion that Murray not only does not anticipate the claimed structure or method, but
16 Murray also lacks any suggestion that the reference could be modified to achieve an equivalent
17 structure (i.e., such remarks are directed to forestalling a future rejection based on 35 U.S.C. § 103).

18 As amended Claim 1 recites *means for analyzing the spot of immobilized airborne particles*
19 *while the particles remain disposed on the regenerable solid collection surface to determine if the*
20 *spot of immobilized airborne particles represents a biological threat*.

21 Murray does not anticipate the structure of Claim 1 because Murray lacks the recited *means*
22 *for analyzing the spot of immobilized airborne particles while the particles remain disposed on the*
23 *regenerable solid collection surface to determine if the spot of immobilized airborne particles*
24 *represents a biological threat*.

25 The Examiner indicates that paragraph 0040 of Murray discloses a detector. Significantly,
26 Murray discloses that collected particles must be removed from either a liquid or solid collection
27 surface *before* they are analyzed. More specifically, Murray discloses in paragraph 0037 that the
28 liquid sample is delivered through a controllable pinch valve to an optical cell 50. Further, Murray
29 discloses in paragraph 0039 that the concentrated sample is delivered to the cell 50. Finally, Murray
30 discloses in paragraph 0040 that cell 50 is where analysis of the sample takes place. Thus, the

1 detector in Murray is *NOT* configured to perform its analysis *while* the particles are disposed on a
2 solid collection surface, because Murray has taught that the sample is transported *away from*
3 collector 38 for analysis.

4 In contrast, Claim 1 specifically recites that the particles are analyzed while retained on the
5 collection surface. Thus, the air sensor of Claim 1 is distinguishable over Murray because the
6 particles collected by applicants' air sensor are analyzed while retained on the collection surface,
7 whereas the particles collected by Murray's device are removed for analysis.

8 Accordingly, the rejection of independent Claim 1 under 35 U.S.C. § 102(e) should be
9 withdrawn. Because dependent claims include all of the elements of the independent claim from which
10 the dependent claims ultimately depend, dependent Claims 3-7, 29-30, 33-36 and 43-45 are patentable
11 for at least the reasons discussed above in regard to independent Claim 1, and the rejection of
12 dependent Claims 3-7, 29-30, 33-36 and 43-45 under 35 U.S.C. § 102(e) should also be withdrawn.

13 Patentability of Independent Claim 21

14 The following traversal is based on responding to a rejection under 35 U.S.C. § 102.
15 Applicants respectfully request the Examiner to fully consider the merits of the Remarks that follow.
16 The traversal is based on an analysis that concludes that Call *does not disclose an equivalent*
17 *structure*. Any remarks regarding teaching, suggesting, or modifying are to be taken in the context of
18 a *further* assertion that Call only does not anticipate the claimed structure or method, but Call also
19 lacks any suggestion that the reference could be modified to achieve an equivalent structure (i.e.,
20 such remarks are directed to forestalling a future rejection based on 35 U.S.C. § 103).

21 The Examiner has rejected Claims 21-24 and 37-38 under 35 U.S.C § 102(b) as being
22 anticipated by Call. The Examiner asserts that Call discloses an equivalent method of depositing
23 particles on a collection surface, detecting a biological signature, and regenerating the collection
24 surface. Applicants respectfully disagree for the following reasons.

25 Call does not anticipate the structure of Claim 1 because Call does not disclose the step of
26 analyzing particles to determine if there represents a biological threat *while the particles remain*
27 *disposed on the regenerable solid collection surface*.

28 Independent Claim 21 recites that the particles are analyzed *while they are still deposited on*
29 *the collection surface*. The method disclosed by Call is distinguishable, in that Call's method
30 requires that the particles be *removed from the collection surface* to provide a liquid sample that is

1 then used to analyze the particles in the liquid solution. This point is made clear in paragraph [0122]
2 of Call, which states in part:

3
4 In summary, this embodiment of the present invention conveys mail to be
5 analyzed for chemical and biological agents into a negative pressure
6 containment chamber, which includes a HEPA filtration system, a mechanism
7 for opening letters or other items of mail, and pressurized air jets for
8 aerosolizing any particulates that might be on the surface or contained within
9 the items of mail. A triggering sampler continuously monitors the level of
10 particulates (or quality of particulates) within the sampled air stream, and when
11 required, *a detection sampling system takes a wet sample of the particulates
12 for detailed analysis.* If desired, an archiving sampler is provided to collect
13 and archive dry samples for later analysis, such as to facilitate a forensic
14 investigation. Optionally, a decontamination fluid is sprayed inside the
15 containment chamber by decontamination means to decontaminate the interior
16 of the chamber, if potentially threatening contamination is detected in a parcel
17 being processed. (Emphasis added.)

18
19 The triggering sampler in Call is implemented using a particle counter that detects particles
20 entrained *in an air stream* (i.e., before they are deposited on a collection surface). The detection
21 sampler of Call also includes a collection surface configured to collect particles from the air;
22 however, the collected particles *are not* analyzed while still deposited on the collection surface.
23 Instead, in Call, the particles are washed off the collection surface to obtain a wet sample, which is
24 analyzed using detectors configured to analyze particles in solution. The technique disclosed by Call
25 is not equivalent to that recited in Claim 21.

26
27 During the interview the Examiner indicated that the phrase “and when required” possibly
28 implied that Call performs some sort of detection analysis prior to being washed off to obtain the wet
29 sample. That is true. The triggering sampler is constantly “detecting” a quantity of particles in the
30 air flow entering the mail processing station. Note however, that this prior analysis is not performed
on particles deposited on the collection surface, but on particles entrained in the air. The theory
behind this sampling paradigm (a theory well described in the Call reference) is that when the particle
count in the air increases, there is a greater likelihood of particles being released from an item of
mail, and a sample of those particles should be collected for analysis. There is a background level of
particles associated with mail; generally paper dust. When the particle count increases over that
background, there is a good chance some particles (potentially a toxin or biological agent) are being

1 released from an item of mail. The “when required” language is simply referring to the fact that a
2 sample of particles from the collection surface is “required” when the triggering detector indicates
3 that the number of particles in the air has increased over a background level. If the particle count in
4 the air is at background, there is no need to collect a sample from the collection surface.

5 Call simply does not analyze particles while they are retained on the collection surface, thus
6 Call does not anticipate the method defined in Claim 21. Accordingly, the rejection of independent
7 Claim 21 under 35 U.S.C. § 102(b) should be withdrawn. Because dependent claims include all of the
8 elements of the independent claim from which the dependent claims ultimately depend, dependent
9 Claims 21-24 and 37-38 are patentable for at least the reasons discussed above in regard to independent
10 Claim 21, and the rejection of dependent Claims 21-24 and 37-38 under 35 U.S.C. § 102(b) should also
11 be withdrawn.

12 Patentability of New Claim 46

13 New Claim 46 is based on Claim 1, and further recites specific types of surface regenerators
14 (a brush, a pad, and a wheel) and a *sensing means for determining if the spot of immobilized airborne*
15 *particles represents a biological threat*. Claim 46 distinguishes over the prior art because the prior
16 art does not teach or suggest an equivalent sensing means (that analyzes the particles retained on the
17 collection surface to determine if the particles are a biological threat), and because the cited art does
18 not teach that a collection surface that is to be used over and over again for collecting particles should
19 be cleaned between each cycle using either a brush, a pad or a wheel.

20 Significantly, Lin, Allen, and Uziel each are directed to devices for cleaning surfaces in a
21 manufacturing context. None of those references are related to an air sensor or a method for
22 collecting and analyzing particles from the air. Such references do not anticipate Claim 46 because
23 each such reference fails to teach the recited *sensing means for determining if the spot of immobilized*
24 *airborne particles represents a biological threat*. Each such reference cannot be used to support an
25 obvious rejection (i.e., a rejection that combines their surface cleaning techniques with a reference
26 disclosing the analysis of particles to detect a biological threat) because the cleaning references
27 collectively are non-analogous art for the purposes of rejections under 35 U.S.C § 103.

28 Applicants appear to be the first to disclose an air sensor and a method of air sampling that
29 combine the following elements: 1) depositing particles on a solid surface; 2) analyzing those
30

1 particles on the solid surface to determine if the particles are a threat; and 3) cleaning the surface
2 before collecting and analyzing new particles.

3 Patentability of New Claim 47

4 New Claim 47 generally includes the recitation of Claim 21, but additionally includes language
5 directed to the timing of the steps. Support for the timing of the steps can be found in applicants'
6 FIGURE 4 and in the specification, on page 45, line 21-page 47, line 11.

7 Claims Rejected Under 35 U.S.C. § 103

8 The Examiner has rejected Claim 31 under 35 U.S.C. § 103(a) as being unpatentable over
9 Bryden in view of Lin et al (U.S. Patent No. 6,193,587, hereinafter referred to as "Lin"). However,
10 Claim 31 has been canceled, so this point is moot.

11 Claims Rejected Under 35 U.S.C. § 103

12 The Examiner has rejected Claim 31 under 35 U.S.C. § 103(a) as being unpatentable over
13 Bryden in view of Lin. However, Claim 31 has been canceled, so this point is moot.

14 MPEP Claims Rejected Under 35 U.S.C. § 103

15 The Examiner has rejected Claim 31 under 35 U.S.C. § 103(a) as being unpatentable over
16 Bryden in view of Lin. However, Claim 31 is a dependent claim, whose independent claim
17 patentably distinguishes over the cited art, generally as described above.

18 Accordingly, all of the claims now submitted define patentable subject matter that is neither
19 anticipated nor obvious in view of the prior art cited. The Examiner is thus requested to pass the present
20 patent application to issue in view of the amendments and the remarks submitted above. If there are any
21 questions that might be addressed by a telephone interview, the Examiner is invited to telephone the
22 undersigned attorney, at the number listed below.

23 Respectfully submitted,

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25 Michael C. King
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27 MCK/RMA:elm
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30